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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/576,786	04/21/2006	Benoit Fecamp	72NP154548	5922

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EXAMINER	
SUERETH, SARAH ELIZABETH	

ART UNIT	PAPER NUMBER
3749	

NOTIFICATION DATE	DELIVERY MODE
10/16/2009	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/576,786	FECAMP ET AL.	
	Examiner	Art Unit	
	Sarah Suereth	3749	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *21 April 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-14* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-14* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *21 April 2006* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Drawings

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the series of temperature sensors must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

2. Claims 3-7 and 11-13 are objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim must refer to another claim in the alternative only. See MPEP § 608.01(n). For examination purposes, claim 3 was regarded as referring to either claim 1 or claim 2. Claims 11-13 were interpreted as depending on either claim 5 or claim 8.

3. Claim 7 is also objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claim 7 depends on claim 4, which requires temperature sensors. Claim 7 does not further limit this claim.

4. Claim 8 is objected to because the limitation "the compressor" in line 7 of the claim lacks antecedent basis. For the purpose of examination, it was regarded as introducing a compressor into the claim.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1-4 and 7 are rejected under 35 U.S.C. 102(b) as being anticipated by Nakajima et al (5600948).

7. Nakajima discloses: an acquisition device/sensor (10,8,7,6,12,9a), an electronic data processor (5) running a control program including a database (col. 5, lines 52-57); a fuel valve (11), an air valve (9), said processor using signals from the sensor(s) to regulate the opening of the air and fuel valves (col. 5, lines 14-18).

8. Regarding claims 2-4, the sensors include two temperature sensors (6 and 12)

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

10. Claims 5,8-13are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakajima et al (5600948) in view of Maus et al (5428956).

11. Nakajima, as discussed above, discloses the invention as claimed with the exception of showing two instead of three temperature sensors.

12. Maus shows a similar device including three temperature sensors (4,5 and 6) arranged as claimed inside the combustion chamber (1). Maus shows one embodiment using three sensors (Figure 1), and another embodiment with two sensors (Figure 2). Maus teaches that the additional sensor results in a better temperature reading for the middle of the catalyst (col. 9 lines 4-8).

13. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the Nakajima apparatus to include three sets of temperature sensors as shown by Maus, in order to obtain a more accurate catalyst temperature reading (col. 9, lines 4-8).

14. As discussed above in the drawing objection, applicant's Figures appear to show three temperature sensors (60,61 and 62), not three "sets" of sensors.

However, the courts have held that duplication of parts for amplified effect does not distinguish over the prior art, unless a new and unexpected result is produced (In re Harza, 274 F.2d 669, 124 USPQ 378 (CCPA 1960) , also MPEP 2144.04).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the Nakajima apparatus by inserting a plurality of temperature sensors in each location, in order to increase the number of data points obtained.

15. Regarding claims 11-13, Maus shows the three sensors in three areas of the combustion chamber as claimed.

16. Regarding claim 8, although Nakajima must inherently have a compressor to operate, it is not illustrated in the Figures. One of ordinary skill in the art would know the compressor must be located before the air flow sensor (10), in order to provide the air into the combustion chamber. Also, although Figure 1 does not illustrate the fuel injector being supplied by a fuel duct, it must inherently be connected to a fuel source in order to operate.

17. Regarding claims 9 and 10, it is not inherent that the fuel ducts are arranged as claimed, or that there are multiple fuel ducts.

18. Maus discloses multiple fuel inlets (Figure 1, fuel pump 9 supplies four separate fuel inlets) leading into the combustion chamber (2).

19. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the Nakajima apparatus with the multiple fuel ducts as taught by Maus, in order to use a conventional fuel injecting structure.

20. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nakajima et al (5600948) in view of Maus et al (5428956), further in view of Rostrup-Nielsen (6109018).

21. Nakajima in view of Maus, as discussed above, discloses the invention as claimed with the exception of the outlet of the system leading to a gas turbine.

22. Rostrup-Nielsen discloses a catalytic assembly (34) connected at the exhaust duct to a gas turbine (36) at the outlet, and a compressor (32) at the inlet (Figure 1).

23. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the Nakajima apparatus by using the catalyst control system with a gas turbine, in order to use the controller in a known apparatus (see Rostrup-Nielsen paragraph 4).

24. Claims 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nakajima et al (5600948) in view of Naber et al (5428956).

25. Nakajima, as discussed above, discloses the invention as claimed with the exception of showing pressure sensors.

26. Naber discloses that vehicles are conventionally equipped with manifold air pressure sensors to indicate the vehicle's continual operation (col. 11, lines 1-21).

27. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the Nakajima apparatus to include manifold pressure sensors as a matter of using conventional prior art devices for their intended purposes.

Regarding the limitation that there is more than one pressure sensor, the courts have held that duplication of parts for amplified effect does not distinguish over the prior art, unless a new and unexpected result is produced (In re Harza, 274 F.2d 669, 124 USPQ 378 (CCPA 1960) , also MPEP 2144.04).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the Nakajima apparatus by inserting a plurality of pressure sensors in each location, in order to increase the number of data points obtained.

Conclusion

28. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sarah Suereth whose

telephone number is (571) 272-9061. The examiner can normally be reached on Tuesdays & Thursdays 8:00AM-4:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steve McAllister can be reached on (571) 272-6785. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Sarah Suereth/
Examiner, Art Unit 3749

/Steven B. McAllister/
Supervisory Patent Examiner, Art Unit 3749